



March 23, 2012
Via Electronic Filing

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, NW
Washington, D.C. 20554

Re: Ex Parte Notice, WT Docket 11-69, ET Docket No. 09-234

Dear Ms. Dortch:

PowerTrunk, Inc. ("PowerTrunk") submits further information with regard to use of PowerTrunk transmitters with emission designator 20K0D7W, FCC IDs WT7PTRNKTBSR75800 (repeater), WT7PTRKTMDT400800 (mobile) and WT7PTRKTHTT500800 (portable) in public safety frequencies, and seeks prompt dismissal or denial of the claims presented by Harris Corporation (Harris) in its *ex parte* filing of March 16, 2012 (Harris Submission).

The Harris Submission raises two main issues, (1) a suggestion that broad support exists for prohibition of TETRA on public safety frequencies, and (2) a suggestion that the restrictions on TETRA equipment identified in the FCC's Waiver Order and Order for Clarification are also applicable to PowerTrunk's equipment. As described below, PowerTrunk's equipment is not, by definition, TETRA. Consequently, the issues raised by Harris are not relevant to PowerTrunk's equipment and, therefore, Harris is not entitled to the relief it requests.

Prior to the technical considerations which are presented below, PowerTrunk would like to draw the Commission's attention to the context in which Harris is requesting the Commission to take "immediate" action.

Exhibit A of this Ex Parte Notice (NEW JERSEY TRANSIT CORPORATION. REGULARLY SCHEDULED BOARD OF DIRECTORS' MEETINGS. MARCH 14, 2012. FINAL AGENDA) is the agenda for a meeting held before a public audience at One Penn Plaza, Newark, NJ (New Jersey Transit Headquarters) and hardcopies of Exhibit A were distributed to all attendees. ACTION ITEM 1203-09 "BUS RADIO



SYSTEM REPLACEMENT CONTRACT AWARD (NO. 11-018)” is defined as follows:

“Authorization, as the result of a competitive Request for Proposal (RFP) procurement process, to enter into a contract (No. 11-018) with Alcatel-Lucent USA, Inc. of Murray Hill, New Jersey, for a new Bus Radio System, at a total cost not to exceed \$32,515,000, plus five percent for contingencies, subject to the availability of funds”.

The “EXECUTIVE DIRECTOR’S REPORT”, “ACTIONS ITEMS”, describes the Bus Radio System Replacement Contract Award (No. 11-018) in full detail, including the pricing presented by the two qualified proponents, one of which was Harris:

RFP 11-018 RESULTS

Alcatel-Lucent USA, Inc.	\$32,514,729.43
Harris Corporation	\$41,730,031.63

PowerTrunk’s Digital Land Mobile Radio (D-LMR) equipment is included in the successful proposal submitted by Alcatel-Lucent, which also happens to be the motivation behind the Harris Submission. PowerTrunk would ask that the Commission note that the Harris Submission was filed two days after the Board of Directors of the New Jersey Transit Corporation (NJT) approved the aforesaid action item No. 1203-09 by unanimous vote, the Chairman of the Board being authorized to enter into a contract (No. 11-018) with Alcatel-Lucent. Harris filed its request for immediate Commission action, notwithstanding that Harris has been an active participant in these proceedings for over two years, and undoubtedly is aware of PowerTrunk’s June 8, 2011 letter expressly setting forth PowerTrunk’s views regarding compliance of its D-LMR equipment with Commission Rules, that Harris is now challenging for the first time.

By way of background, PowerTrunk was granted type acceptance certificates for the aforementioned transmitters on the following dates:

FCC ID	BAND	DATE
WT7PTRNKTBSR75800	806.0-870.0 MHz	October 28, 2009
WT7PTRKTMDT400800	806.0-870.0 MHz	November 19, 2010
WT7PTRKTHTT500800	806.0-870.0 MHz	November 18, 2010



The lab reports were issued by TIMCO and BACL (two labs accredited by the Commission) and approved by the Commission prior to the issuance of the grants¹). In other words, the technical grounds upon which the reports are based and the grants themselves have been matters of the public record since October 28, 2009. Moreover, various media, including *Mission Critical Communications – Radio Resource Magazine* and *Urgent Communications*, among many others, widely reported PowerTrunk's grants.

In spite of such wide media coverage, and in spite of the publication of the grants and the lab reports on the Commission's website since the aforesaid dates, it was not until precisely two days after the Board of Directors of NJT authorized its Chairman to enter into a contract with Alcatel-Lucent whose proposal included PowerTrunk radios, that Harris's challenge was filed with the Commission.

With respect to the specific points raised in the Harris Submission, PowerTrunk offers the following comments:

1. All Harris' references to "TETRA" are irrelevant to the PowerTrunk equipment , since it is clear from the Orders cited by Harris, including the Waiver Order issued by the Commission on April 26, 2011 and the Order on Clarification issued on September 28, 2011, that the PowerTrunk equipment is not "TETRA":
 - a. The Waiver Order states in its first paragraph that "TETRA is a spectrally efficient digital technology with the potential to provide valuable benefits to land mobile radio users. It does not, however, conform to all of our Part 90 technical rules." (emphasis supplied). PowerTrunk's equipment, by contrast, has been certificated under the Part 90 rules. PowerTrunk equipment is a 20K0D7W, 4-slot TDMA Part-90-compliant equipment while "TETRA" is a 22K0D7W, 4-slot TDMA non-Part-90-compliant equipment.
 - b. The Order on Clarification notes that "[the Association] also requested a waiver to permit manufacturers that had obtained Commission certification of TETRA radios that comply with the Part 90 rules by using reduced power to upgrade to the TETRA standard without requiring a new grant of equipment authorization." (emphasis supplied). To make sense of the Association's position, the equipment for which a waiver is requested "to upgrade to the TETRA standard" cannot also be "TETRA". The request and

¹ The referenced grants and reports can be downloaded from the Commission's website.

the Orders logically should be read such that wherever the term “TETRA” is used, it is construed as not referring to equipment already certificated under Part 90, but instead to reference only the equipment as defined, for example, in n. 4 of the Clarification Order. Likewise, whenever “reduced power” is cited with respect to 4-slot TDMA equipment, it does not refer to equipment that would be classified as “TETRA” under the mandatory ETSI standard.

- c. The Orders do not make any reference to the certificates previously granted in favor of the PowerTrunk equipment. This is consistent with the context of TETRA as used in the Orders, which clearly do not include equipment previously certified as Part-90-compliant. Thus, there is nothing in the Orders which identifies restrictions relevant to the previously obtained certificates.
- d. The ETSI TETRA standard, Chapter 5.5 MODULATED SIGNAL DEFINITION, referring to the roll-off value (α) of the square raised cosine filter of the TETRA modulation states that “the value of α shall be 0.35”. PowerTrunk has widely published that it used $\alpha=0.2$ to compress the spectrum so that its equipment stays within the boundaries of the applicable emission masks and occupied bandwidth limits as defined in Part 90. Thus, even though PowerTrunk’s equipment is TETRA-Interoperability-Profile-compliant (TIP-compliant) in accordance with the TETRA Association rules, it is not compliant with the ETSI standard which is the definition adopted by the Commission for “TETRA.” It is also important to point out that PowerTrunk’s equipment is D-LMR equipment that some have referred to as “reduced power” TETRA or “low power” TETRA. The terms “reduced power” and “low power” were not coined by PowerTrunk but by the Commission in the Waiver Order (first reference ever to the PowerTrunk’s implementation as “reduced power”) and by Motorola Solutions in one of its filings in response to the Waiver Order (first reference ever to “low power”). PowerTrunk defined its implementation as “TETRA 0.2” (in reference to the value of α used) in several of its marketing materials (including a comprehensive explanation which was filed along with PowerTrunk’s Ex-Parte Notice filed June 16, 2010 in ET Docket No. 09-234. The term was chosen to expressly reflect that PowerTrunk’s equipment is not “TETRA.” Rather, it is an implementation which does not conform to the entirety of the TETRA standard, but that, at the same time, conforms to the TETRA interoperability criteria as defined by the TETRA Association. The “reduced power” and “low power” terminology are unfortunate misnomers because

they imply that the power of the transmitter is reduced in order to comply with Part 90, when instead it is the α parameter as set forth in the ETSI TETRA standard that has been changed. In summary, PowerTrunk's equipment is a D-LMR implementation which could be defined as "TETRA 0.2" and has been referred to as "reduced power TETRA", but certainly it is not "TETRA" in the context of the Orders (as it does not conform to the TETRA standard) nor is it "low power" (as e.g. a 100 W PowerTrunk transmitter would still be compliant with the Part 90 rules).

2. In regard to Harris' claims regarding the alleged lack of qualification of the PowerTrunk equipment to be certificated under Mask B for NPSPAC spectrum, the following points should be made:
 - a. Rule 90.210 does not make any distinction between digital modulated and analog modulated signals in regard to the qualification of any given transmitter equipped with an audio low pass filter. Hence, a digital transmitter equipped with an audio low pass filter implemented in the digital domain qualifies for being certificated under Mask B for NPSPAC spectrum.²
 - b. Mask B is permitted for transmitters equipped with an audio low pass filter as it ensures that the radiated spectrum will not trespass the boundaries of the emission mask at any time, regardless of the audio volume into the microphone. However, a more stringent mask is required for use on NPSPAC frequencies for equipment that is not equipped with an audio low pass filter since its radiated spectrum could exceed the mask. In other words, the purpose of audio filtering is to ensure that the emission mask is met at all times. Hence the fact that Mask H was more stringent does not provide any additional benefit in comparison with Mask B, so long as the latter's emission boundaries are not trespassed through use of an audio filter (as Mask B guarantees that no interference could occur on adjacent channels in accordance with the Part 90 rules). Otherwise, it would not make any sense that Rule 90.210 allowed Mask B at all (which is precisely Harris' groundless assertion).

² Indeed, the Commission removed Rule 90.211 in 1999, which did not allow digital emission to be qualified as equipped with audio low pass filter. The Commission's decision was consistent with the technological evolution of land mobile radio equipment. By contrast, restoring Rule 90.211 (which it appears Harris is advocating) would have the consequence of disqualifying all audio digital filtering implemented in the digital domain over the last thirteen years by various vendors as detailed below.

- c. Harris's statement that "... the use of such an audio filter in no way impacts the emission of digital waveforms" confirms that point: Digital equipment equipped with an audio low pass filter satisfies the FCC rules because the filter is implemented in the digital domain. Harris may believe that audio filtering must be implemented by way of discreet resistors and capacitors. However, it is a fact that filtering can be implemented by way of digital signal processing. Filtering functions are measured on an input-output basis rather than by investigating how they were implemented. For example, no matter how loud the user of a PowerTrunk radio speaks, neither the emission mask boundaries, nor the occupied bandwidth limits would be exceeded at any time. Thus, the PowerTrunk equipment qualifies as equipped with an audio low pass filter.
 - d. If the Commission were to adopt the analysis advocated by Harris, vendors in addition to PowerTrunk would be impacted. For example, the firm Digital Receiver Technologies Inc. obtained Commission certification on April 8, 2011 under Mask B in 851.0-869.0 MHz for its amplifier (FCC ID: XLM9955B1), with emission designator 17K7D7W (digital modulation) under Part 90 rules. (The lab report was issued by PCTEST ENGINEERING LABORATORY INC.). Also, Motorola Solutions obtained certification on February 25, 2011 under Mask B in 851.0-869.0 MHz for a multi-band mobile two-way radio (FCC ID: AZ492FT7044), with various emission designators, including 20K0F1E (digital modulation). (The lab report was issued by TIMCO). It defies credulity to believe that at least three labs accredited by the Commission (BACL, TIMCO and PCTEST Engineering) all "wrongly" qualified transmitters as equipped with an audio low pass filter.
3. Harris also raised the issue of the occupied bandwidth on NPSPAC frequencies. While frequency coordination may be required in all cases (including, e.g., in integrating a system using Harris' OpenSky technology in a congested environment) no matter what mask is used (B or H), the relevant fact is that the authorized bandwidth is 20 KHz, a standard with which the PowerTrunk equipment complies. If what Harris meant, in the context of the ongoing rulemaking, is that Mask H should be imposed also on equipment with an audio low pass filter in NPSPAC frequencies, such decision would involve, in addition to the consequences described above, that the most efficient Part-90-compliant narrowband technology (PowerTrunk's) would be banned. Although it is not entirely clear, if Harris is



advocating that NPSPAC frequencies should be restricted to a bandwidth of 12.5 KHz, the result would be that all high-capacity 4-slot TDMA technologies would be banned and thus only low-capacity TDMA technologies would be allowed. This would result in reducing the voice and data capacities of the systems operating on NPSPAC frequencies to one half. The impact would be either that public safety users would be precluded from using advanced applications (for example, state-of-the-art AVL) or that more spectrum would be needed. Therefore, the existing rule 90.210 should not be changed, but rather the various relevant factors such as frequency coordination, data throughput, voice traffic and network design can be properly designed by each end-user in a competitive environment.

In summary, if the Harris' arguments were to be accepted, various technologies and equipment which currently compete with Harris and other vendors in full compliance with the existing rules would be effectively banned. Thus, it is transparent that Harris's untimely requests and complaints have been filed as part of its procurement strategy in the context of the RFP 11-018 of the New Jersey Transit. Therefore, we urge the Commission to promptly dismiss or deny the entirety of Harris's unfounded arguments.

We thank the Commission for its consideration of these comments.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Jose Martin". The signature is written in a cursive, flowing style and is enclosed within a hand-drawn oval shape.

Jose Martin
Executive Vice President

cc: Michael Wilhelm
William D. Lane
Zenji Nakazawa
Roberto Mussenden
Brian Marengo
Dana Zelman

EXHIBIT A

**NEW JERSEY TRANSIT CORPORATION
NJ TRANSIT BUS OPERATIONS, INC.
NJ TRANSIT RAIL OPERATIONS, INC.
NJ TRANSIT MERCER, INC.
NJ TRANSIT MORRIS, INC.
REGULARLY SCHEDULED BOARD OF DIRECTORS' MEETINGS**

MARCH 14, 2012

FINAL AGENDA

- **CALL TO ORDER**
- **APPROVAL OF MINUTES OF PREVIOUS MEETINGS**
- **PUBLIC COMMENTS ON AGENDA ITEMS AND OTHER MATTERS**
- **BOARD MEMBER COMMENTS**
- **ADVISORY COMMITTEE REPORT**
- **SENIOR CITIZEN AND DISABLED RESIDENT TRANSPORTATION ADVISORY COMMITTEE REPORT (NEXT SCHEDULED REPORT JUNE 2012)**
- **BOARD COMMITTEE REPORTS**
 - *Administration Committee
 - *Capital Planning, Policy & Privatization Committee
- **EXECUTIVE DIRECTOR'S MONTHLY REPORT**

ACTION ITEMS

1203-09 BUS RADIO SYSTEM REPLACEMENT CONTRACT AWARD (NO. 11-018)

Authorization, as the result of a competitive Request for Proposal (RFP) procurement process, to enter into a contract (No. 11-018) with Alcatel-Lucent USA, Inc. of Murray Hill, New Jersey, for a new Bus Radio System, at a total cost not to exceed \$32,515,000, plus five percent for contingencies, subject to the availability of funds.

1203-10 NEWARK LIGHT RAIL BLOOMFIELD AVENUE STATION AMERICANS WITH DISABILITIES ACT (ADA) IMPROVEMENTS: CONSTRUCTION CONTRACT AWARD

Authorization to contract (No. 11-039X) with DMR Construction of Waldwick, New Jersey, for the construction of the Newark Light Rail Bloomfield Avenue Station Americans with Disabilities Act (ADA) Improvements project at a cost not to exceed \$5,198,453.40, plus five percent for contingencies, subject to the availability of funds.

**1203-11 COMPUTERIZED CREW MANAGEMENT SYSTEM (CCMS) –SOFTWARE
UPDATE TO COMPLY WITH FEDERAL HOURS OF SERVICE LAW**

Authorization to amend contract (No. 29774) with PS Technology, Inc. of Boulder, Colorado to modify the Crew Caller Management System to comply with Federal Railroad Administration regulations and provide for other software upgrades at a cost not to exceed \$959,000 plus five percent for contingencies, for a total contract authorization of \$2,410,793, subject to the availability of funds.

➤ ADJOURNMENT

APPROVAL OF MINUTES

WHEREAS, the By-Laws provide that the minutes of actions taken at meetings of the New Jersey Transit Corporation, NJ TRANSIT Rail Operations, Inc., NJ TRANSIT Bus Operations, Inc., NJ TRANSIT Mercer, Inc., and NJ TRANSIT Morris, Inc. Board of Directors be approved by the Board; and

WHEREAS, pursuant to Section 4(f) of the New Jersey Public Transportation Act of 1979, the minutes of actions taken at the February 8, 2012 Board meetings of the New Jersey Transit Corporation, NJ TRANSIT Bus Operations, Inc., NJ TRANSIT Rail Operations, Inc., NJ TRANSIT Mercer, Inc., and NJ TRANSIT Morris, Inc. were forwarded to the Governor on February 13, 2012;

NOW, THEREFORE, BE IT RESOLVED that the minutes of actions taken at the February 8, 2012 New Jersey Transit Corporation, NJ TRANSIT Rail Operations, Inc., NJ TRANSIT Bus Operations, Inc., NJ TRANSIT Mercer, Inc., and NJ TRANSIT Morris, Inc. Board of Directors' meetings are hereby approved.

EXECUTIVE DIRECTOR'S REPORT

**THIS REPORT WILL BE PRESENTED
SEPARATELY**

ACTION ITEMS

**ITEM 1203-09: BUS RADIO SYSTEM REPLACEMENT CONTRACT AWARD
(NO. 11-018)**

BENEFITS

This mandatory project will result in improved customer satisfaction as well as improved safety and security for both customers and operations personnel. It will also address a Federal Communications Commission requirement to reband NJ TRANSIT's operating radio frequencies to reduce potential interference.

This project will install new radio infrastructure in existing communications facilities thus replacing a radio communications system that is 25 years old and one that can no longer be expanded to meet NJ TRANSIT's requirements for advanced data communications. The project will also replace land mobile radio units in revenue buses - both NJ TRANSIT owned and operated as well as those of contract and subsidized operators, non-revenue vehicles, and light rail. In addition to providing mission-critical computer-aided dispatch voice communications between NJ TRANSIT dispatchers and vehicles, the system will also provide a data pipeline, through integration with the Smart Bus program, which will be used to pass real-time location information from NJ TRANSIT buses.

Through the implementation of this replacement radio system, NJ TRANSIT will be assured it has a mission-critical radio communications system that will deliver advanced on-board services to operators and riders for years to come and enable NJ TRANSIT to meet the requirements of the Federal Communications Commission mandate to reband its existing operating frequencies.

ACTION (Scorecard: Safety and Security, Customer Experience)

Staff seeks authorization, as the result of a competitive Request for Proposal procurement process, to enter into a contract (No. 11-018) with Alcatel-Lucent USA, Inc. of Murray Hill, New Jersey, for a new Bus Radio System, at a total cost not to exceed \$32,515,000, plus five percent for contingencies, subject to the availability of funds.

PURPOSE

This contract award, the result of a competitive procurement process, will procure the necessary land mobile radios and supportive infrastructure to include associated hardware, software, spares, and services to deploy a replacement land mobile radio system for voice and data critical to bus operations and customer safety and satisfaction. The new system will also be the conduit for providing real-time position information from NJ TRANSIT's SmartBus technology for the benefit of NJ TRANSIT customers, bus operations personnel, and NJ TRANSIT Police for security needs.

The new system will also correct existing system coverage gaps along certain routes to improve coverage for all system users through the expansion of radio site locations. These changes will also provide additional voice and data capacity.

BACKGROUND

History

NJ TRANSIT relies on a legacy land mobile radio communications system used by Bus Operations, NJ TRANSIT Police, Light Rail, Non-Revenue Operations, and a variety of private bus operators throughout the State. The system was installed in 1985 at an approximate cost of \$80,000,000. The system has since been discontinued by the manufacturer and can no longer support the advanced data communications needs of NJ TRANSIT. The bus radio system is a mission-critical system necessary for bus operations service supervision, incident response and customer safety. Given the age of the equipment and the inability to grow to meet present advanced technology needs, the system must be replaced. Replacing the system will also fulfill NJ TRANSIT's requirement to reband its existing operating frequencies.

Project Justification

Over 4,000 users currently rely on NJ TRANSIT's bus radio system for a variety of mission-critical and routine operations requirements. The current system mainly supports voice with extremely limited bandwidth to service data needs. As the current system is no longer supported and cannot meet NJ TRANSIT's growing data needs, it must be replaced with a modern data-centric communications system for voice and data.

NJ TRANSIT has allocated funding from the Transportation Trust Fund to fund a replacement radio system. Specifications were developed that reflected the business needs that must be supported by the replacement bus radio system and these specifications were included in requirements that were issued in a competitive Request for Proposal to prospective bidders.

Procurement

A Request for Proposal was advertised in local newspapers as well as directly mailed to approximately 16 potential vendors on June 14, 2011. Ultimately, over 70 requests for copies of the Request for Proposal document were serviced by NJ TRANSIT. A well-attended pre-proposal conference was held on June 30, 2011, and site visits to inspect certain NJ TRANSIT locations was held on July 14, 2011. Proposals were received physically and electronically, and opened on September 22, 2011. Oral presentations were held on November 18, 2011. Based upon the result of the proposal submissions, technical review by a six-member Technical Evaluation Committee, and oral presentations, two firms were considered to be in the competitive range for award and were chosen to present best and final offers. Best and Final Offers were received on January 9, 2012. Best and Final Offers were resubmitted based upon further discussions with the firms.

As a result of technical and cost evaluations, Alcatel-Lucent USA, Inc., of Murray Hill, New Jersey, was determined to offer the most advantageous and responsive proposal to NJ TRANSIT and therefore has been selected for contract award.

RFP 11-018 RESULTS

Alcatel-Lucent USA, Inc.	\$32,514,729.43
Harris Corporation	\$41,730,031.63

The Office of Business Development assigned a zero percent Small Business Enterprise goal for this project due to the specialized design and integration requirements of this project.

This item has been reviewed and recommended by the Board Administration Committee and the Board Capital Planning, Policy and Privatization Committee.

FISCAL IMPACTS

Requested Authorization:	\$32,515,000 plus 5% Contingency
Total Project Cost:	\$36,843,644
Projected Date of Completion:	March 2014
Anticipated Source of Funds:	TTF – 100%
DBE/SBE Goal:	None. Specialized skills requirement.
NJ Build Amount:	None
Related/Future Authorizations:	None
Impacts on Subsequent Operating Budgets:	\$250,000 – FY2017 (FY14-FY16 included in procurement) and beyond to maintain software licenses and hardware support in a physically expanded system (relative to existing system) that will provide much needed voice and data enhancements.

RESOLUTION

WHEREAS, NJ TRANSIT's existing Bus radio system is outdated and can no longer meet the needs of NJ TRANSIT; and

WHEREAS, NJ TRANSIT needs to migrate to a new radio system for voice and data that will support NJ TRANSIT's and the public's need for the coming years and fulfill the Federal Communications Commission mandate to reband its operating frequencies; and

WHEREAS, Alcatel-Lucent USA, Inc. was determined to offer the most advantageous and responsive proposal to NJ TRANSIT through a competitive Request for Proposal procurement process;

NOW, THEREFORE, BE IT RESOLVED that the Chairman or Executive Director is authorized to enter into a contract (No. 11-018) with Alcatel-Lucent USA, Inc. of Murray Hill, New Jersey, for a new Bus Radio System, at a total cost not to exceed \$32,515,000, plus five percent for contingencies, subject to the availability of funds.

**ITEM 1203-10: NEWARK LIGHT RAIL BLOOMFIELD AVENUE STATION
AMERICANS WITH DISABILITIES ACT (ADA) IMPROVEMENTS:
CONSTRUCTION CONTRACT AWARD**

BENEFITS

The Newark Light Rail Bloomfield Avenue Station currently consists of two 170-foot-long low-level side platforms in an open cut. The station serves approximately 2700 average weekday customer trips and is a major intermodal transfer point with NJ TRANSIT Bus Lines 11 (Newark-Willowbrook), 28 (Newark-Willowbrook), go28 (Bloomfield-Newark-Newark Liberty International Airport), 29 (Bloomfield Avenue), and 72 (Paterson-Bloomfield-Newark). Approximately 20 percent of the average weekday customer trips (540 customer trips) transfer from/to these bus routes.

The Newark Light Rail Bloomfield Avenue Station Americans with Disabilities Act Improvements project will make this station fully accessible for all customers, in compliance with the Americans with Disabilities Act. Additionally, the project will provide an improved customer communication system and will enhance customer safety and security with the installation of upgraded lighting and closed-circuit television (CCTV).

The extension of the platforms will allow for stopping a two-car consist at the station.

To minimize inconvenience to customers, the phasing of the project will allow customers to access half of each platform, while the other half of the platform is under construction. At times, the construction will require single-track service during off-peak periods. Service outages, if necessary, will occur only after the peak periods and on weekends. Customers will be advised of service changes through seat drops and electronic media (NJ TRANSIT Website, NJ TRANSIT Alerts, My Light Rail).

ACTION (Scorecard: Customer Experience, Safety and Security)

Staff seeks authorization to contract (No. 11-039X) with DMR Construction of Waldwick, New Jersey, for the construction of the Newark Light Rail Bloomfield Avenue Station Americans with Disabilities Act Improvements project at a cost not to exceed \$5,198,453.40, plus five percent for contingencies, subject to the availability of funds.

PURPOSE

This contract includes raising both the inbound and outbound platforms to provide level boarding for mobility-impaired customers; installing one elevator on each platform; and installing a pedestrian grade crossing between the inbound and outbound platforms in case one elevator is out of service. The work also includes upgrading the station lighting; installing 28 speakers for the customer communication system; and installing 12 CCTV cameras and two double-sided video messaging signs which will be connected to the Operations Control Center. The completion of the Newark Light Rail

Supervisory Control and Data Acquisition (SCADA) system later this year will enable the video messaging signs to display the information being broadcast over the public address system. Street-level canopies will be erected over the stairs and elevators to shield customers from the weather, and the platforms will be extended to 200 feet to accommodate two-car consists.

BACKGROUND

History

The Newark City Subway (now known as the Newark Light Rail) opened for passenger service in May 1935 on the bed of the Morris Canal, between Warren Street and Heller Parkway. The southern extension to Pennsylvania Station opened in June 1937 and the northern extension from Heller Parkway to Franklin Street (Branch Brook Park) was completed in 1940. The line was extended north in 2001 to Grove Street in the City of Bloomfield. Of the 17 Newark Light Rail stations, six stations (Davenport Avenue, Bloomfield Avenue, Park Avenue, Norfolk Street, Warren Street/NJIT, and Military Park) are not accessible to mobility-impaired customers.

In order to increase capacity on the Newark Light Rail system, two-car consists would be required. To accommodate two-car consists throughout the system, minor platform work would be needed at the Norfolk Street, Warren Street and Park Avenue stations. A platform extension, similar to that for the Bloomfield Avenue station, would be required at Davenport Avenue. Due to the current track/switch configuration at the Branch Brook Park station, a new outbound platform would be needed to provide sufficient platform length for a two-car consist.

The New Jersey Transportation Heritage Museum has requested that the out-of-service rectifiers that are still located at the Bloomfield Avenue Station be donated to the Museum for use in a light rail exhibit which features the PCC subway cars formerly used on the system. The rectifiers converted alternating current (AC) to direct current (DC). NJ TRANSIT is currently working with the Museum and PSE&G to facilitate the donation of the equipment.

Project Justification

The three highest ridership Newark Light Rail stations that are currently not accessible have an average weekday ridership of 2900 customer trips. With approximately 2700 customer trips per weekday and a high number of bus transfers, Bloomfield Avenue station had been selected as a high-priority station for improvement. The projects demonstrate NJ TRANSIT's commitment to increasing accessibility to all of its systems. These two projects are scheduled to be under construction at the same time in order to take advantage of the same track outages, thus minimizing impacts on customers.

This Newark Light Rail Bloomfield Avenue Station Americans with Disabilities Act Improvements project has been included in the Capital Program for the past four years and has been highlighted to the construction industry.

Procurement

The E-Bid Invitation for Bid was advertised on BID EXPRESS, NJ TRANSIT's electronic bid system, on December 13, 2011 and in local newspapers on December 15, 2011. A Pre-Bid Conference was held on January 4, 2012, at the Newark Light Rail Vehicle Base Facility; a site visit to the Bloomfield Avenue Station followed the Pre-Bid Conference. Bids were received electronically and opened on January 31, 2012 at 2:00 p.m.

The Office of Business Development assigned a 21 percent Small Business Enterprise, Category 5 goal for this project. DMR Construction is a certified Small Business Enterprise. The Engineer's Estimate for this scope of work is \$6,250,000.

E-BID 11-039X RESULTS

Company	Total Bid Price
DMR Construction Waldwick, New Jersey	\$ 5,198,453.40
Railroad Construction Company Paterson, New Jersey	\$ 5,445,070.06
Hall Construction, Inc. Howell, New Jersey	\$ 5,555,000.00
Terminal Construction Corporation Wood-Ridge, New Jersey	\$ 5,945,000.00
Northeast Remsco Construction Farmingdale, New Jersey	\$ 6,384,051.60
H&G Contractors Ridgewood, New Jersey	\$ 6,875,008.60

This item has been reviewed and recommended by the Board Capital Planning, Policy and Privatization Committee.

FISCAL IMPACTS

Requested Authorization: \$ 5,198,453.40 + 5% contingency

Total Project Cost: \$ 9,665,000

Projected Date of Completion: October 2013

Anticipated Source of Funds: Casino Revenue Development Authority
Transportation Trust Fund

DBE/SBE Goal: 21% SBE, Category 5

***NJ Build* Amount:** \$ 25,993

Related Future Authorizations: None

**Impacts on Subsequent
Operating Budgets:** \$ 10,000 annually for maintenance and repair

RESOLUTION

WHEREAS, NJ TRANSIT seeks to enhance the accessibility of its facilities; and

WHEREAS, Bloomfield Avenue Station is a major transfer location between the Newark Light Rail and NJ TRANSIT Bus Services; and

WHEREAS, the project includes raising and extending two 170-foot-long platforms; installing elevators on both platforms; installing a pedestrian grade crossing; installing canopies over the stairs and elevators at street level; and upgrading the lighting, customer communication and CCTV systems; and

WHEREAS, the Newark Light Rail Bloomfield Avenue Station Americans with Disabilities Act Improvements will enhance customer ability to transfer between the Newark Light Rail and NJ TRANSIT bus lines; and

WHEREAS, upon completion of a competitive procurement process, it was determined that DMR Construction was the lowest responsive responsible bidder;

NOW, THEREFORE, BE IT RESOLVED, that the Chairman or Executive Director is authorized to contract (No. 11-039X) with DMR Construction of Waldwick, New Jersey, for the construction of the Newark Light Rail Bloomfield Avenue Station Americans with Disabilities Act Improvements project at a cost not to exceed \$5,198,453.40, plus five percent for contingencies, subject to the availability of funds.

**ITEM 1203-11: COMPUTERIZED CREW MANAGEMENT SYSTEM (CCMS) –
SOFTWARE UPDATE TO COMPLY WITH FEDERAL HOURS OF
SERVICE LAW**

BENEFITS

NJ TRANSIT uses the Computerized Crew Management System to monitor the work assignments of more than 1,400 conductors and locomotive engineers and administer payroll for these employees. Each employee has a unique daily work assignment that may also vary by day of the week.

Crew callers use the Computerized Crew Management System to ensure that all trains and work sites have proper staffing and coverage for vacations, sick leave, and special assignments on test trains or railroad project sites. The system also provides reporting functions and recommendations to optimize the productivity of all train service employees.

The software modifications will ensure NJ TRANSIT is compliant with Federal law and create new opportunities to monitor and improve crew management practices.

ACTION (Scoreboard: Corporate Accountability)

Staff seeks authorization to amend contract (No. 29774) with PS Technology, Inc. of Boulder, Colorado to modify the Crew Caller Management System to comply with Federal Railroad Administration regulations and provide for other software upgrades at a cost not to exceed \$959,000 plus five percent for contingencies, for a total contract authorization of \$2,410,793, subject to the availability of funds.

PURPOSE

In 2011, the Federal Railroad Administration implemented changes to Hours of Service rules that will go into full effect for conductors and engineers on passenger trains on April 15, 2012. The key provisions of the new rules include limitations on the time an employee may remain on duty without rest and limitations on consecutive days of work. Additionally, the rule changes require NJ TRANSIT to submit certain employee work schedules for scientific study to determine schedule-specific risks of fatigue and also to take steps to mitigate fatigue for crews on-duty during overnight hours. These overnight assignments have a more restrictive limitation as to performing duties, hours worked, and mandatory rest periods and relief days.

NJ TRANSIT's Computerized Crew Management System, which is supported by PS Technology, is a proprietary system used by other railroads in the region. In order to ensure compliance with the Federal Railroad Administration Hours of Service rules, NJ TRANSIT must implement certain software modifications to the Computerized Crew Management System by April 2012. These changes will ensure that NJ TRANSIT's crew callers contact only conductors and engineers who are eligible to report to work under the Hours of Service rules.

Other software modifications will allow crews to file timecards via a new web portal, allow managers to monitor compliance and key performance indicators via a new dashboard, and reduce manual data entry and unnecessary paperwork by developing new software interfaces with other systems.

BACKGROUND

History

NJ TRANSIT signed a perpetual license agreement for a crew dispatching system in 1986 with the Denver and Rio Grande Western Railroad Company. PS Technology is formerly a subsidiary of the Denver and Rio Grande Western Railroad Company and is authorized to support the license agreement.

NJ TRANSIT crew dispatchers began using an electronic crew management system in 1988 to call train and engine service personnel for duty. The system was later upgraded to allow crew work assignments to be transferred to the payroll system reducing, but not eliminating the need for manual data entry. Seven payroll clerk positions were eliminated as a result.

In 1999, the last major system update moved the system from a main frame system to a Windows client/server based system. In 2008, the United States Congress passed the Rail Safety Improvement Act which required the Federal Railroad Administration to establish more restrictive regulations governing when and how long employees may work or be called to report to work. The Federal Railroad Administration promulgated these Hours of Service regulations in August 2011 and recent appeals to the regulations were concluded in January 2012. NJ TRANSIT's Computerized Crew Management System must now be modified to ensure compliance with these regulations.

Procurement

NJ TRANSIT received previous Board Authorization to enter into a Procurement-By-Exception contract (No. 29774) with PS Technology, Inc. The contract includes a provision for royalty payments to NJ TRANSIT for the sale of the system to other properties. NJ TRANSIT retains a 33 percent equity share in the System with the remaining 67 percent equity share being retained by PS Technology. To date, NJ TRANSIT has received \$165,000 from PS Technology, Inc. for the sale of the system to Metra and Metro North Railroad. An additional payment is anticipated from the recent sale of the system to Long Island Rail Road.

This item has been reviewed and recommended by the Board Administration Committee.

FISCAL IMPACTS

Requested Authorization:	\$959,000 + 5% for contingencies for a total contract authorization of \$2,410,793
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Total Project Cost:	\$959,000 for proposed software modifications
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Projected Date of Completion:	Hours of service modifications - April 2012 Other software modifications - January 2014 Completion of project - May 2014
Anticipated Source of Funds:	TTF
DBE/SBE Goal:	N/A
NJ Build Amount:	N/A
Related/Future Authorizations:	Future software upgrades and enhancements to support federal mandates and labor contract changes as needed
Impacts on Subsequent Operating Budgets:	\$60,000 per year Covered under the Annual IT Maintenance Contract

RESOLUTION

WHEREAS, the Federal Railroad Administration implemented changes to Hours of Service rules that will go into full effect for conductors and engineers on passenger trains on April 15, 2012; and

WHEREAS, the key provisions of the new rules include limitations on the time an employee may remain on duty without rest and limitations on consecutive days of work; and

WHEREAS, NJ TRANSIT uses the Computerized Crew Management System to monitor the work assignments of more than 1,400 conductors and locomotive engineers and administer payroll for these employees; and

WHEREAS, NJ TRANSIT also uses the Computerized Crew Management System to ensure that all trains and work sites have proper staffing and coverage for vacations, sick leave, and special assignments on test trains or railroad project sites; and

WHEREAS, NJ TRANSIT must implement certain software modifications to the Computerized Crew Management System by April 2012 to comply with the Federal Railroad Administration rule changes; and

WHEREAS, NJ TRANSIT received board authorization to enter into a Procurement-By-Exception contract (No. 29774) with PS Technology, Inc., which included a provision for royalty payments to NJ TRANSIT; and

WHEREAS, NJ TRANSIT's Computerized Crew Management System is proprietary software developed by PS Technology, Inc.;

NOW, THEREFORE, BE IT RESOLVED that the Chairman or Executive Director is authorized to amend contract (No. 29774) with PS Technology, Inc. of Boulder, Colorado to modify the Crew Caller Management System to comply with Federal Railroad Administration regulations and provide for other software upgrades at a cost not to exceed \$959,000, plus five percent for contingencies, for a total contract authorization of \$2,410,793, subject to the availability of funds.